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October 4, 1993

Commissioner Of Patents
and Trademarks
Patent and Trademark Office
Washington, D.C. 20231
Att. Official Draftsman

Ref: Patent Application Number 07/7⁵⁴~~45~~,465
Art Unit 3304 - Filing Date 09/03/91
Corrected Drawings

Dear Sir/Madam:

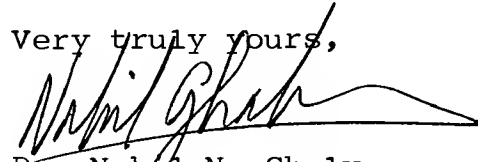
Enclosed please find a new set of corrected drawings which incorporate the changes requested in the Notice Of Draftsman's Patent Drawing Review (PTO FORM 948) dated January 2, 1992.

Said drawings also incorporate the changes requested by Examiner Jessica J. Harrison in her letter dated August 19, 1993 (copy attached).

Please review these drawings and advise if any additional corrections need to be incorporated in the drawings.

Thank you for your cooperation in this matter.

Very truly yours,



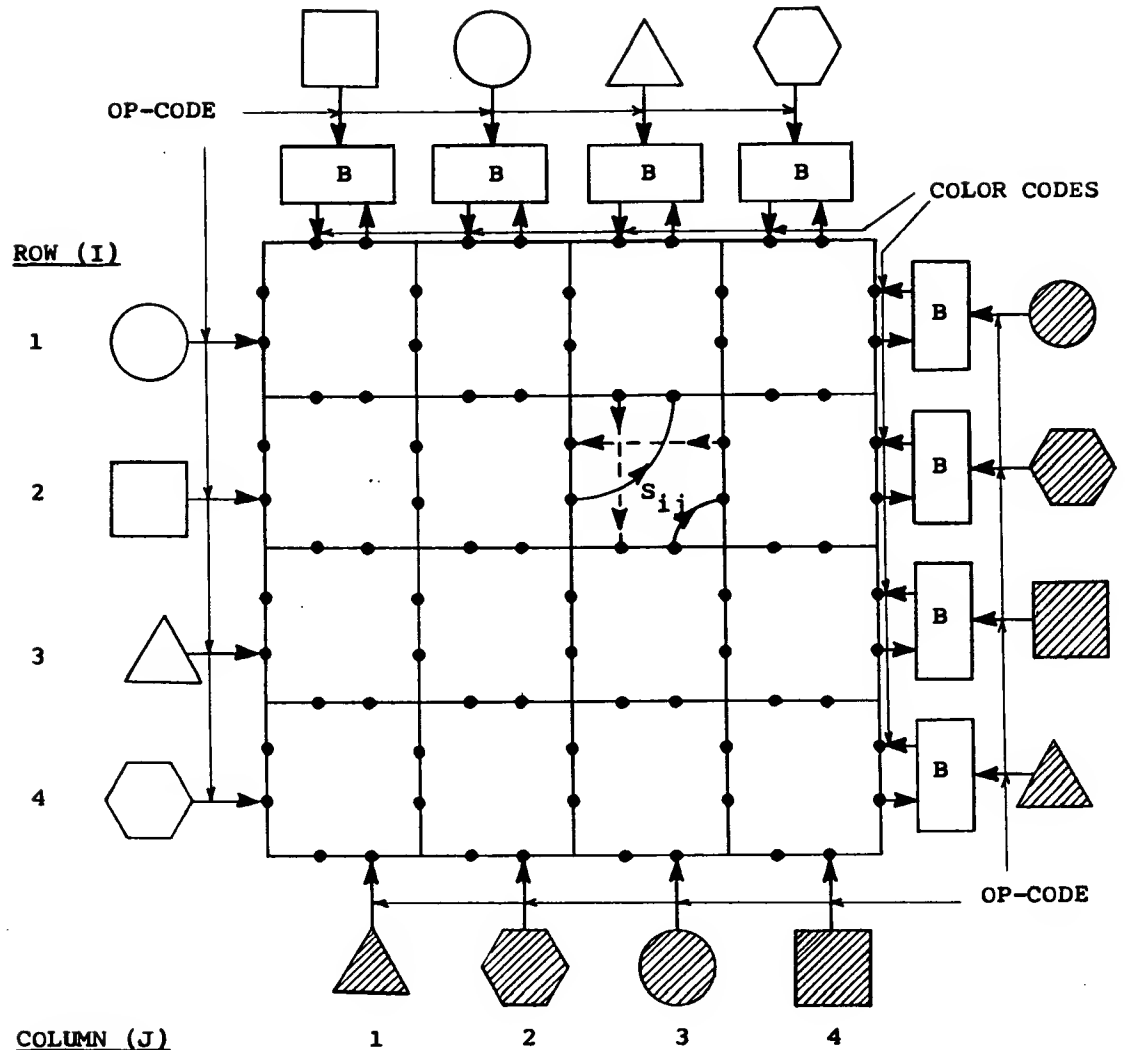
Dr. Nabil N. Ghaly

Encl.









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5286037



B: BOOLEAN FUNCTION

OBJECT								
OP-CODE	000	001	010	011	100	101	110	111

GEOMETRIC LAYOUT OF DEVICE FOR N = 4

FIG. 1

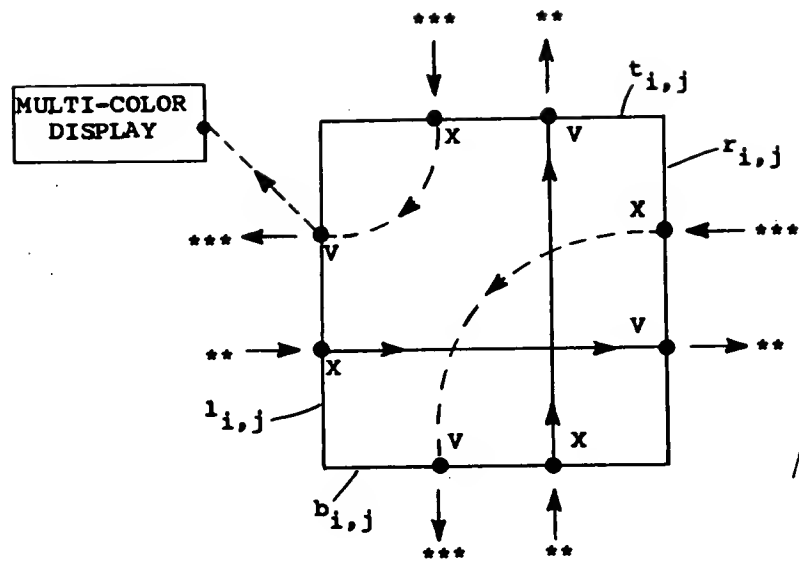


FIG. 2a

SWITCH $W_{i,j}$: ON ("1")

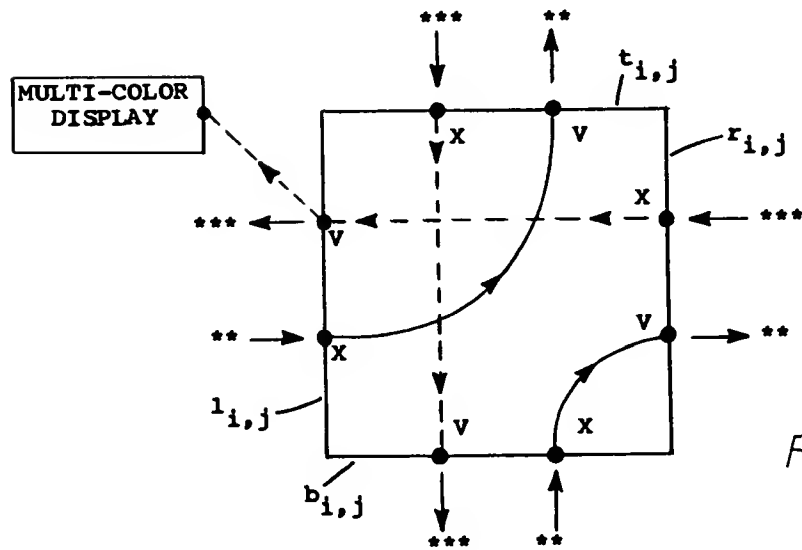


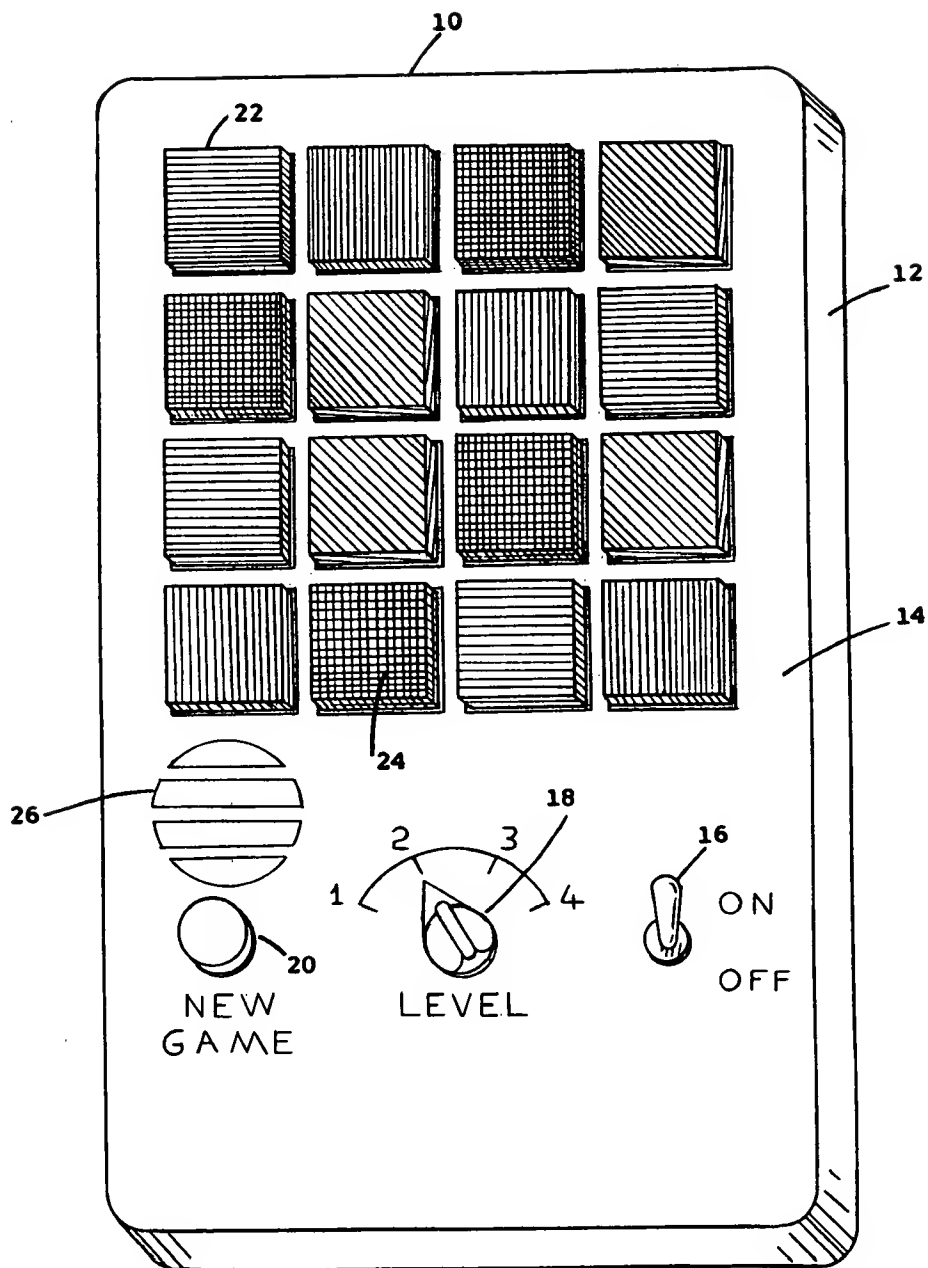
FIG. 2b

SWITCH $W_{i,j}$: OFF ("0")

LEGEND: $**$ OP-CODE
 $***$ COLOR CODE

ROUTING SQUARE $S_{i,j}$

3
273 460



HAND HELD LOGIC GAME DEVICE

FIG. 3

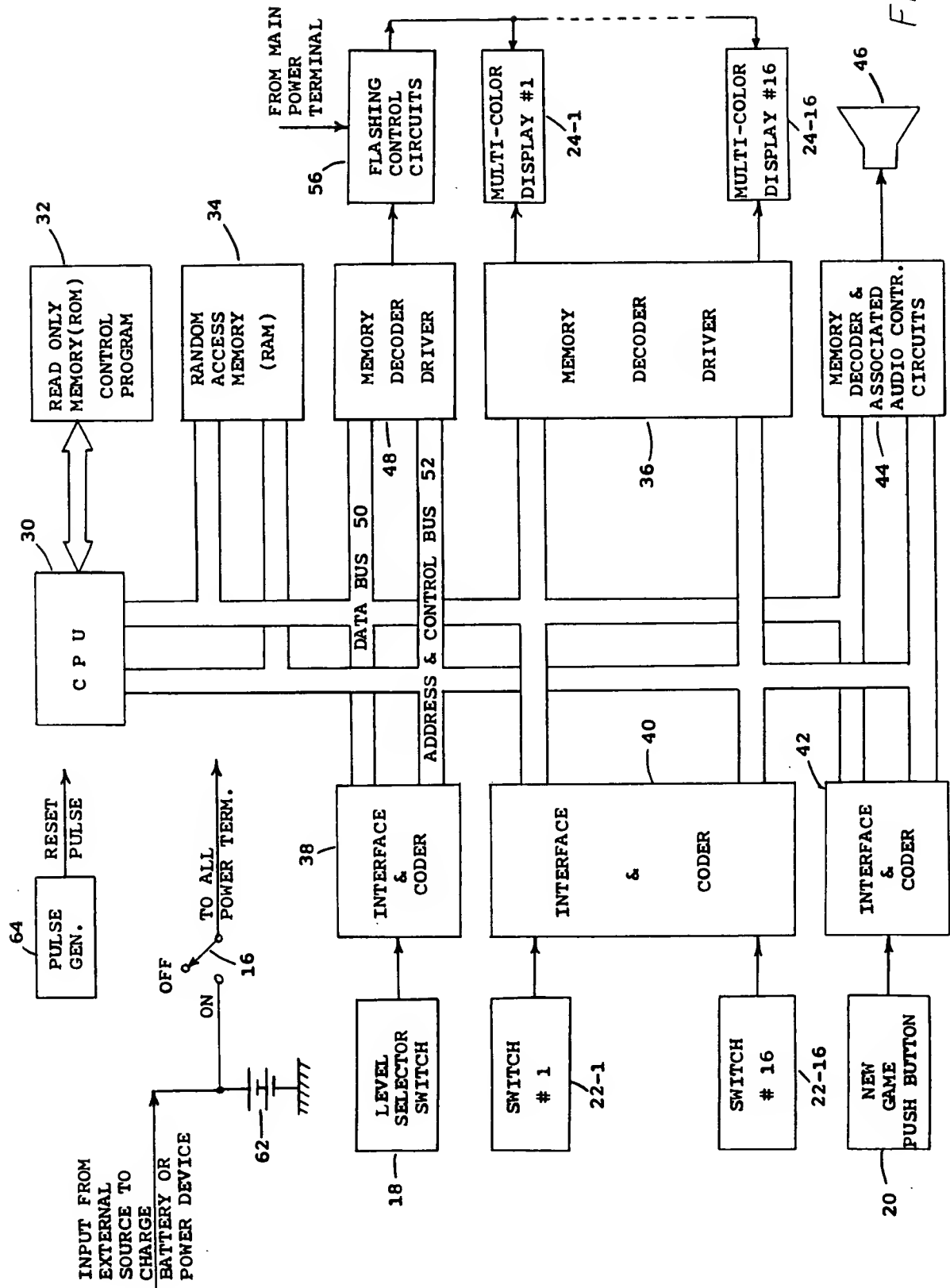


FIG. 4

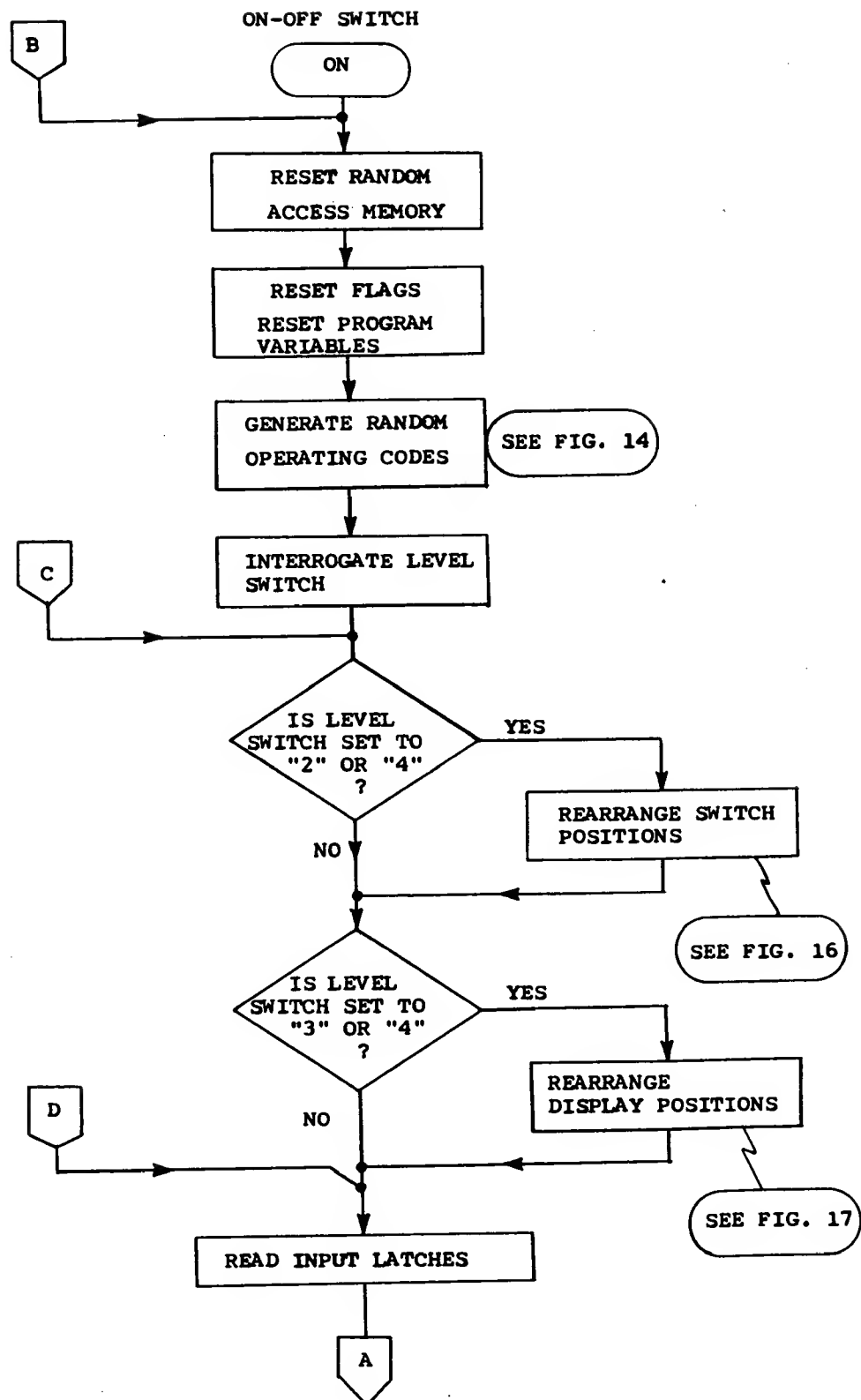


FIG. 5

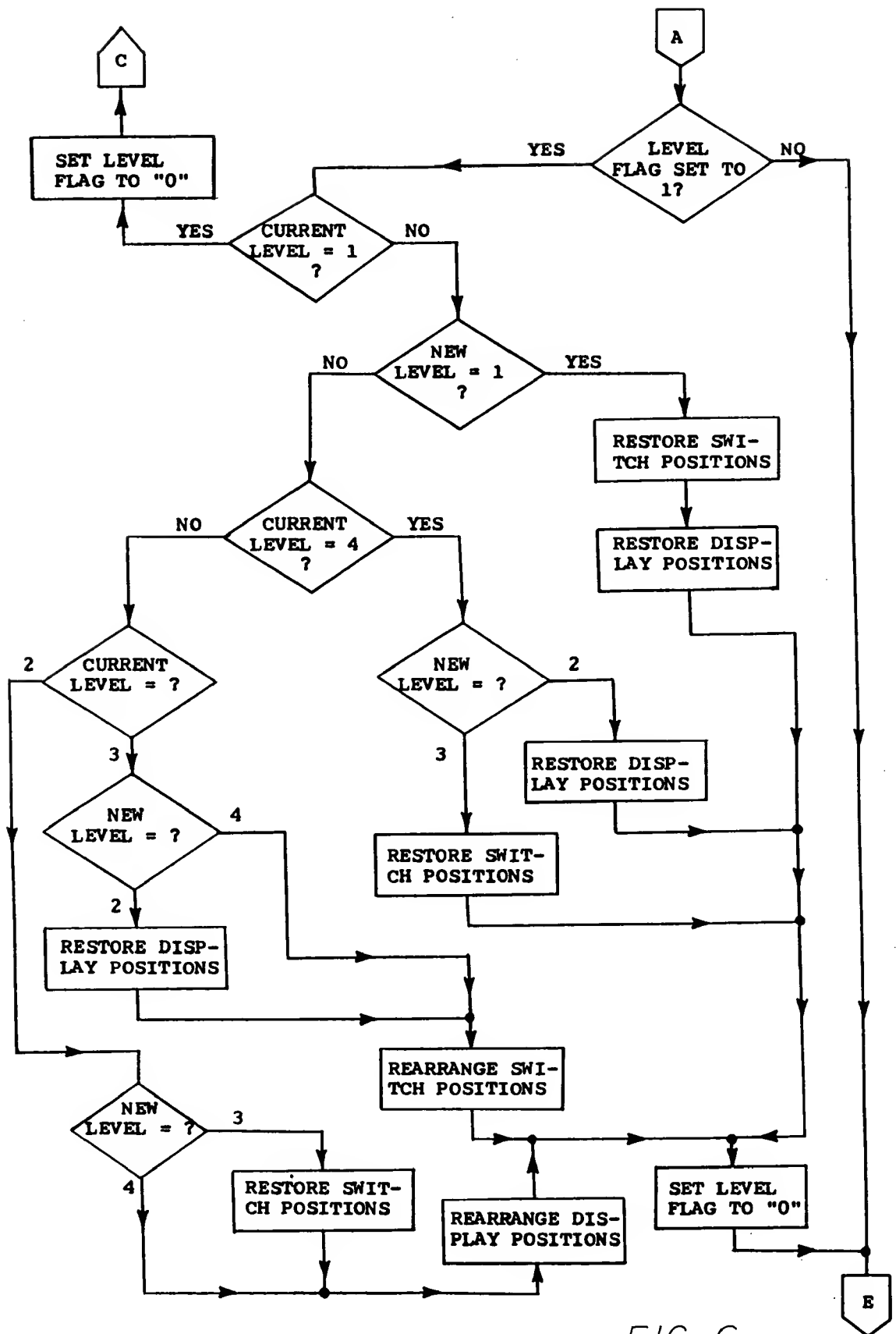


FIG. 6

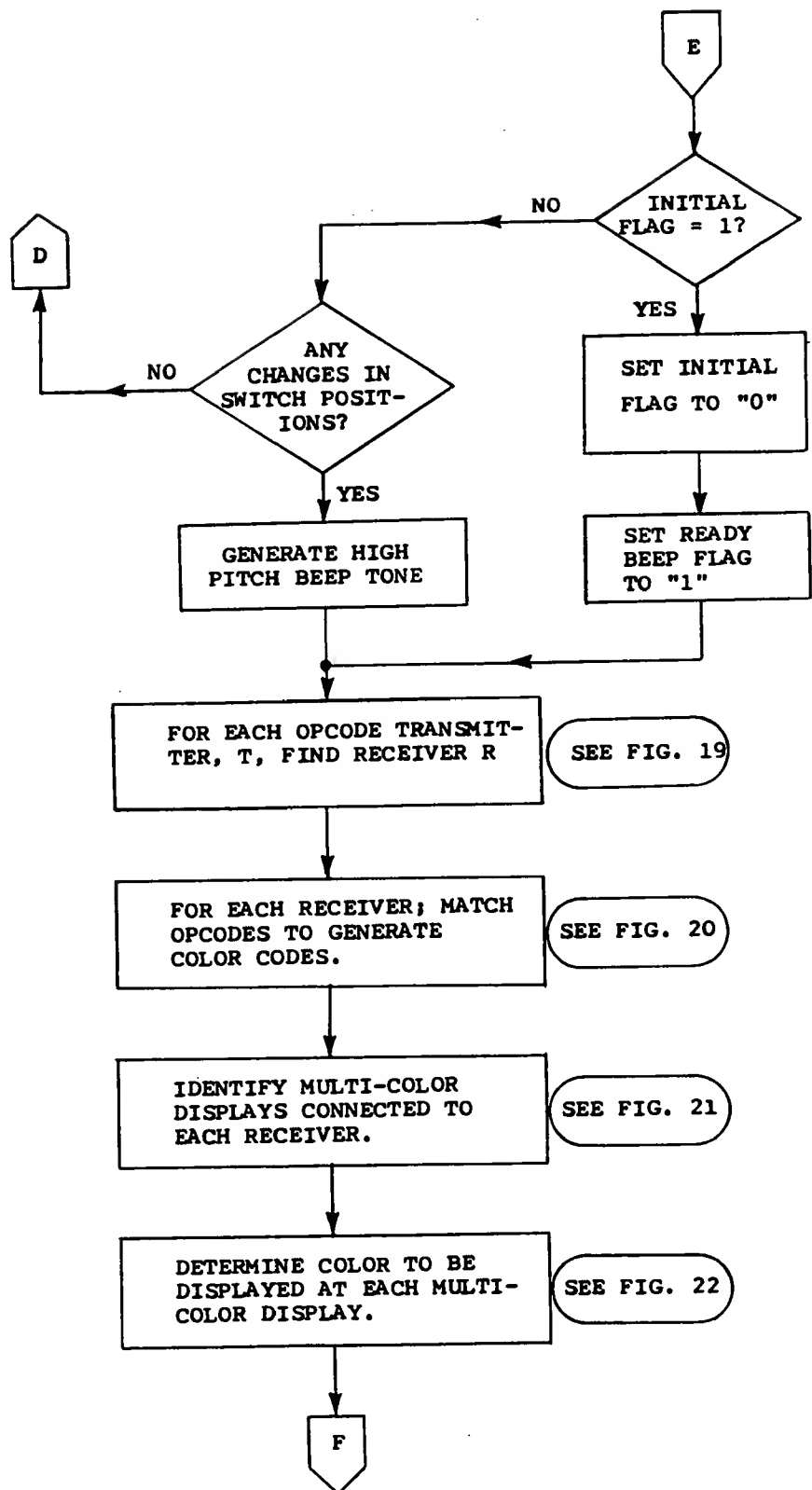


FIG. 7

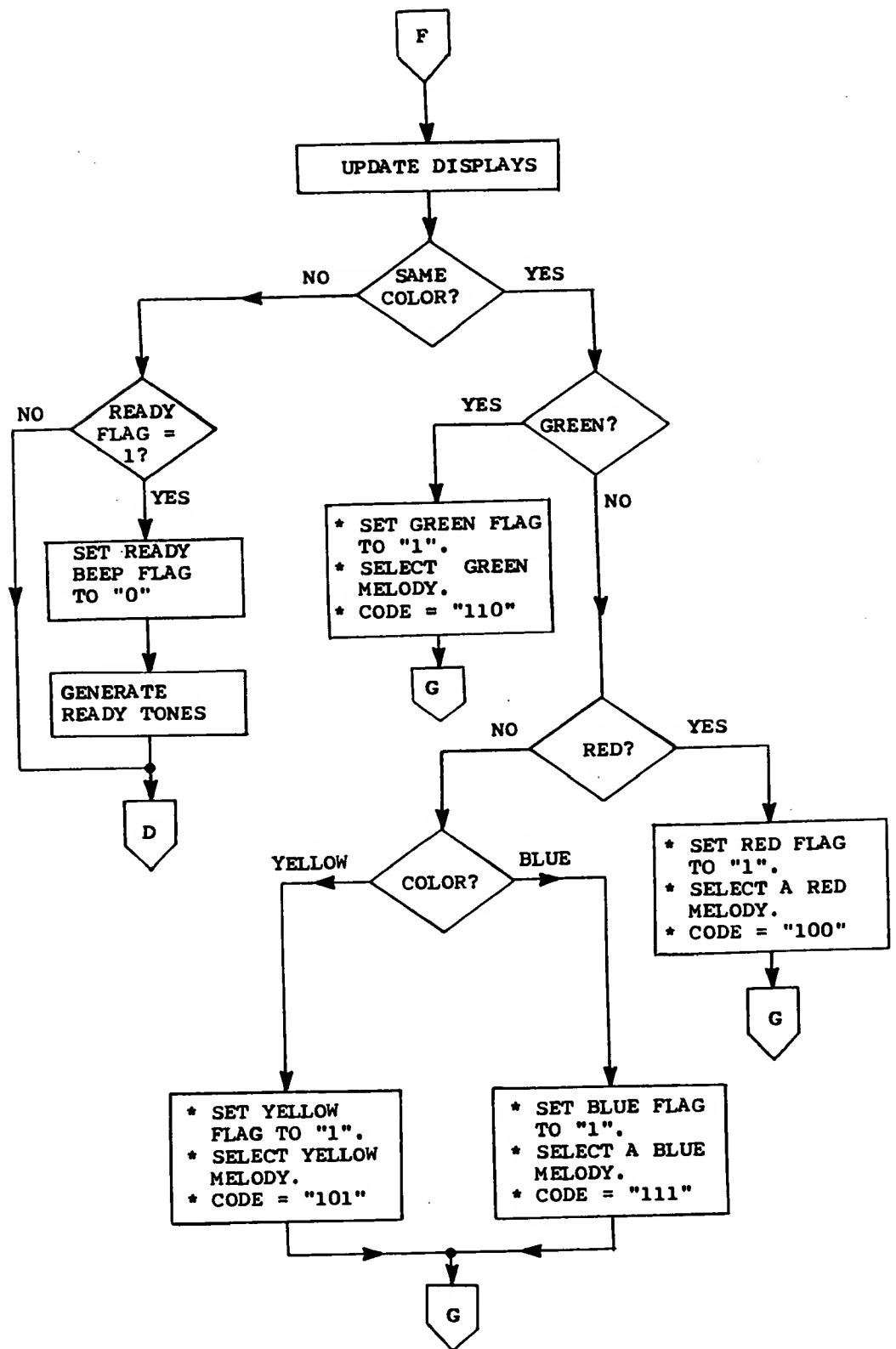


FIG. 8

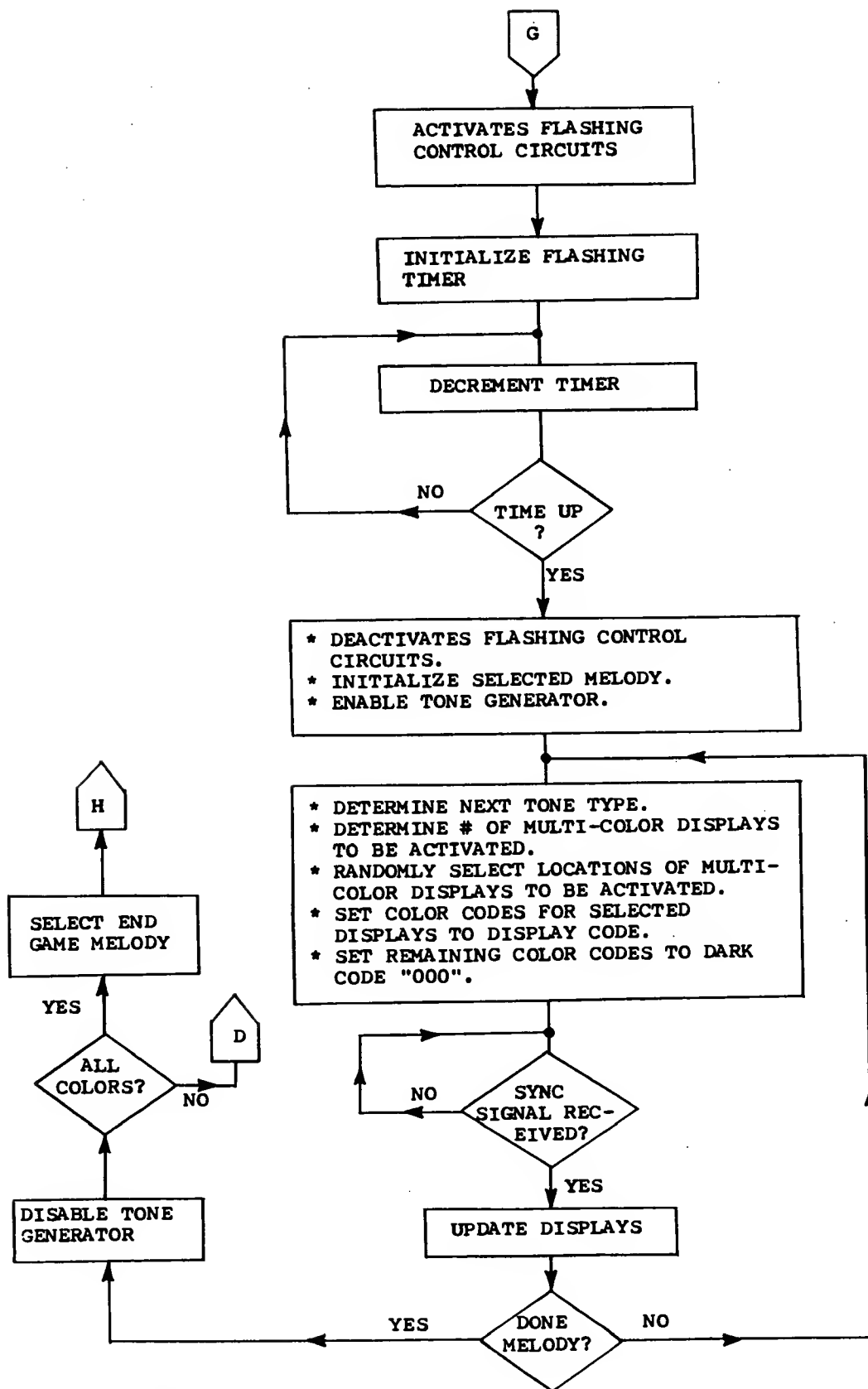


FIG. 9

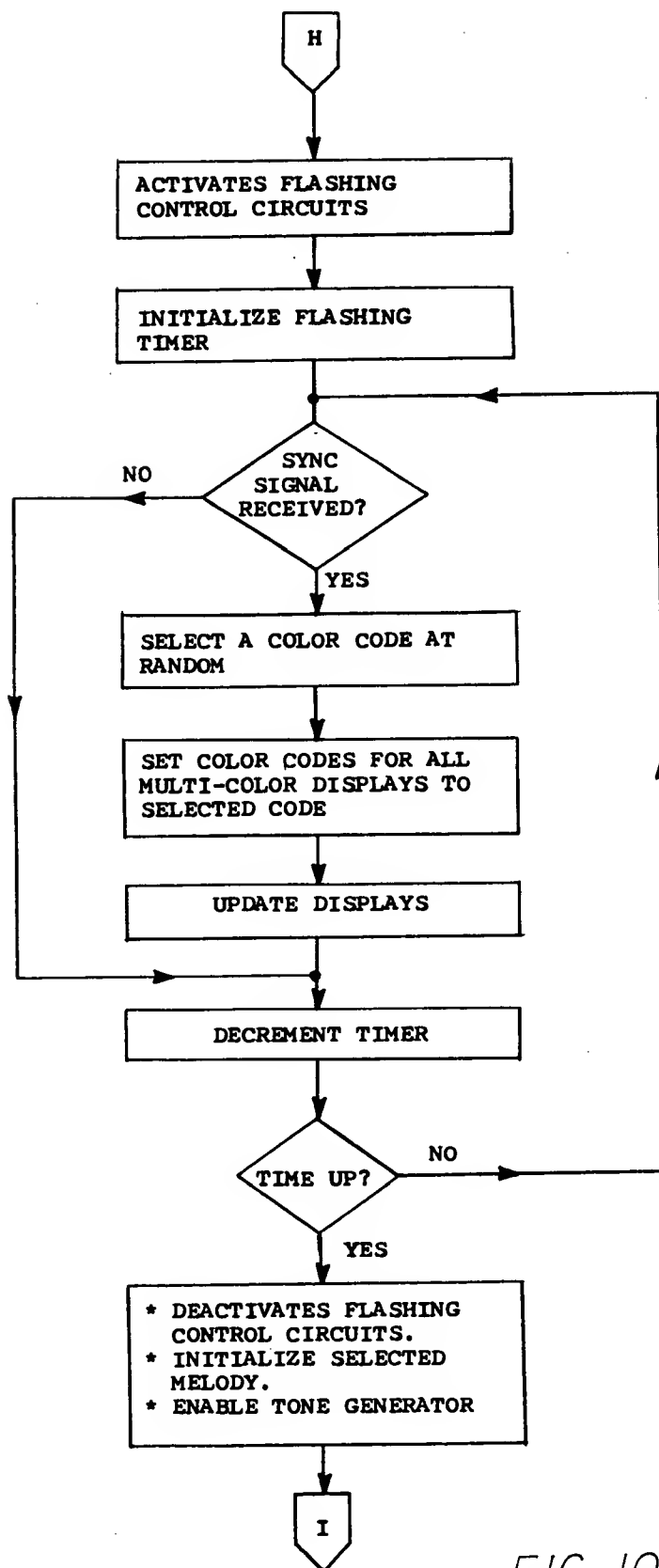


FIG. 10

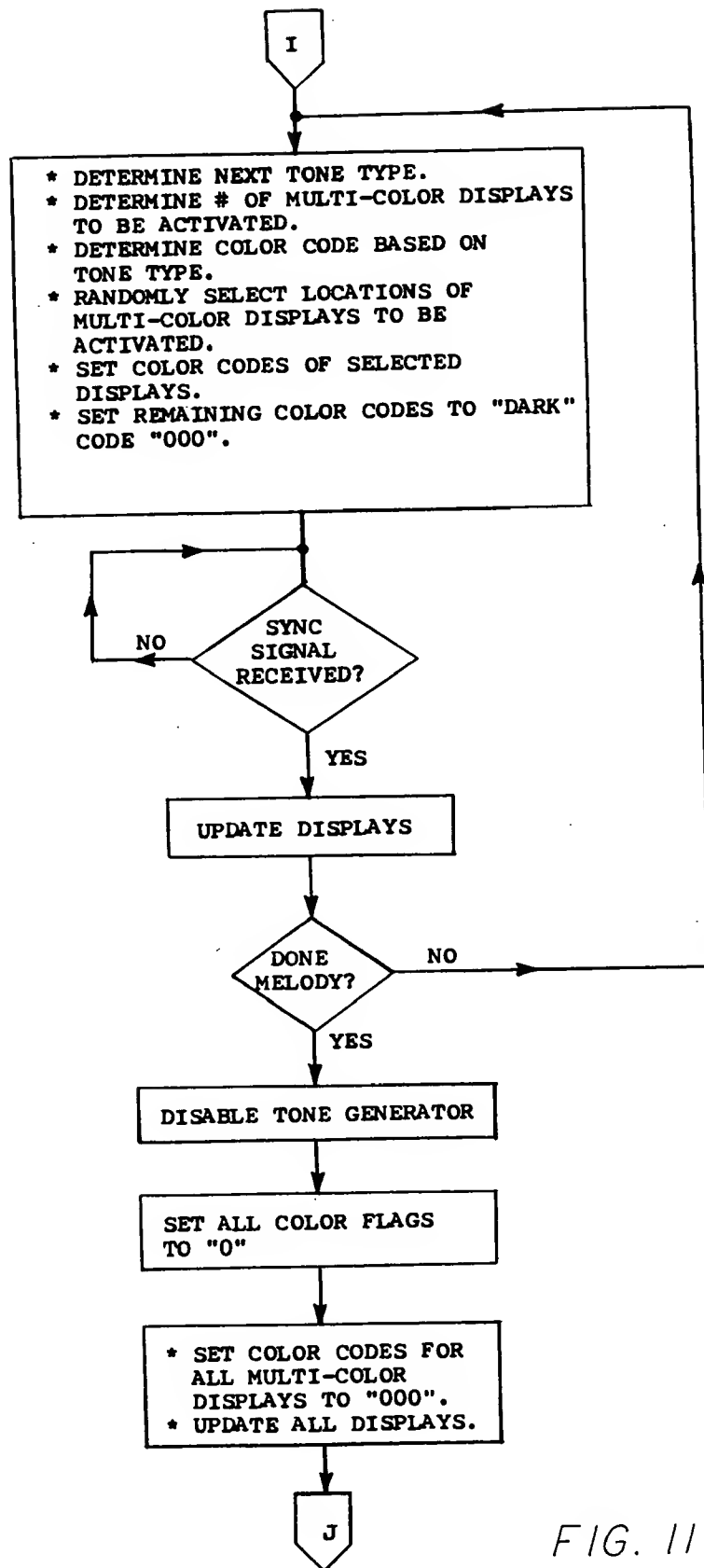


FIG. 11

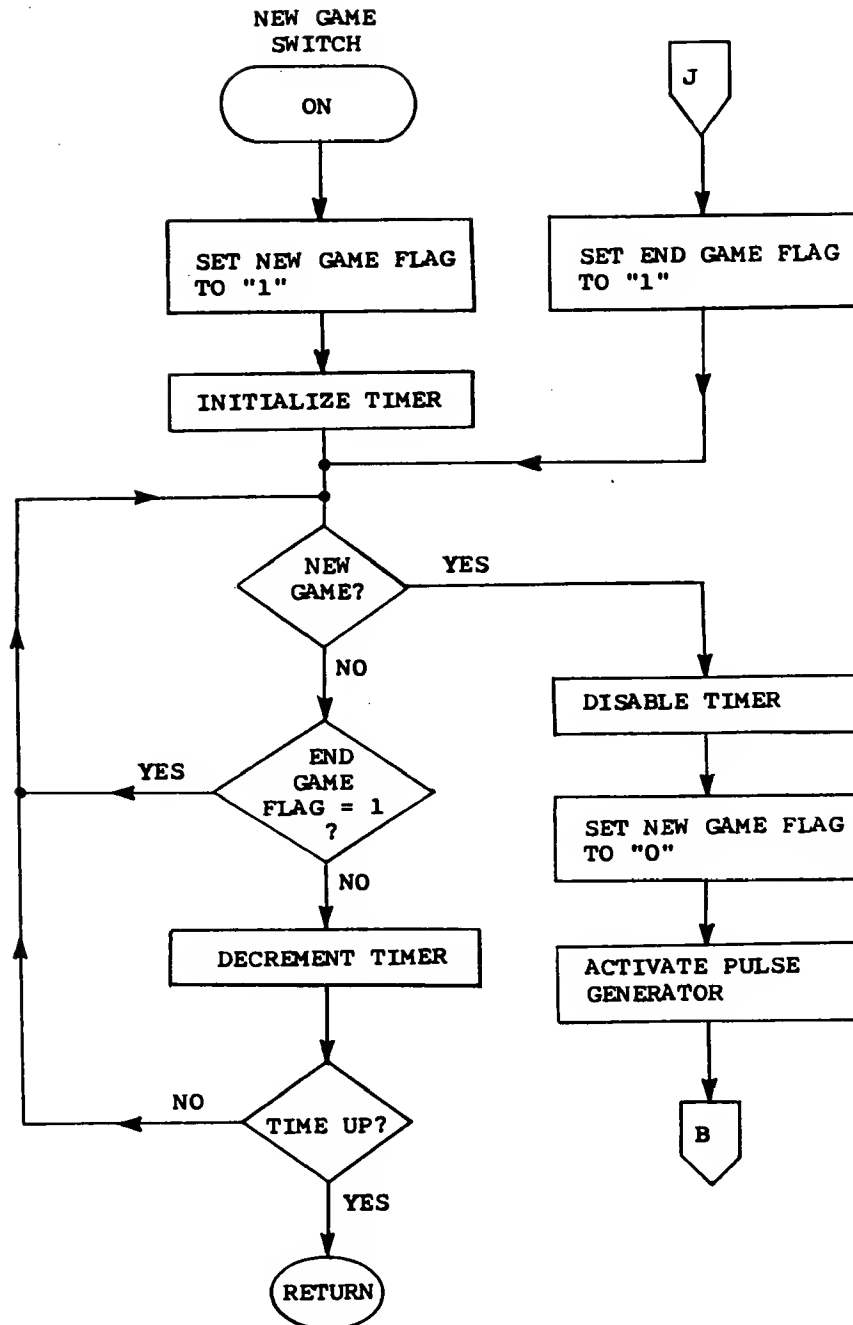


FIG. 12

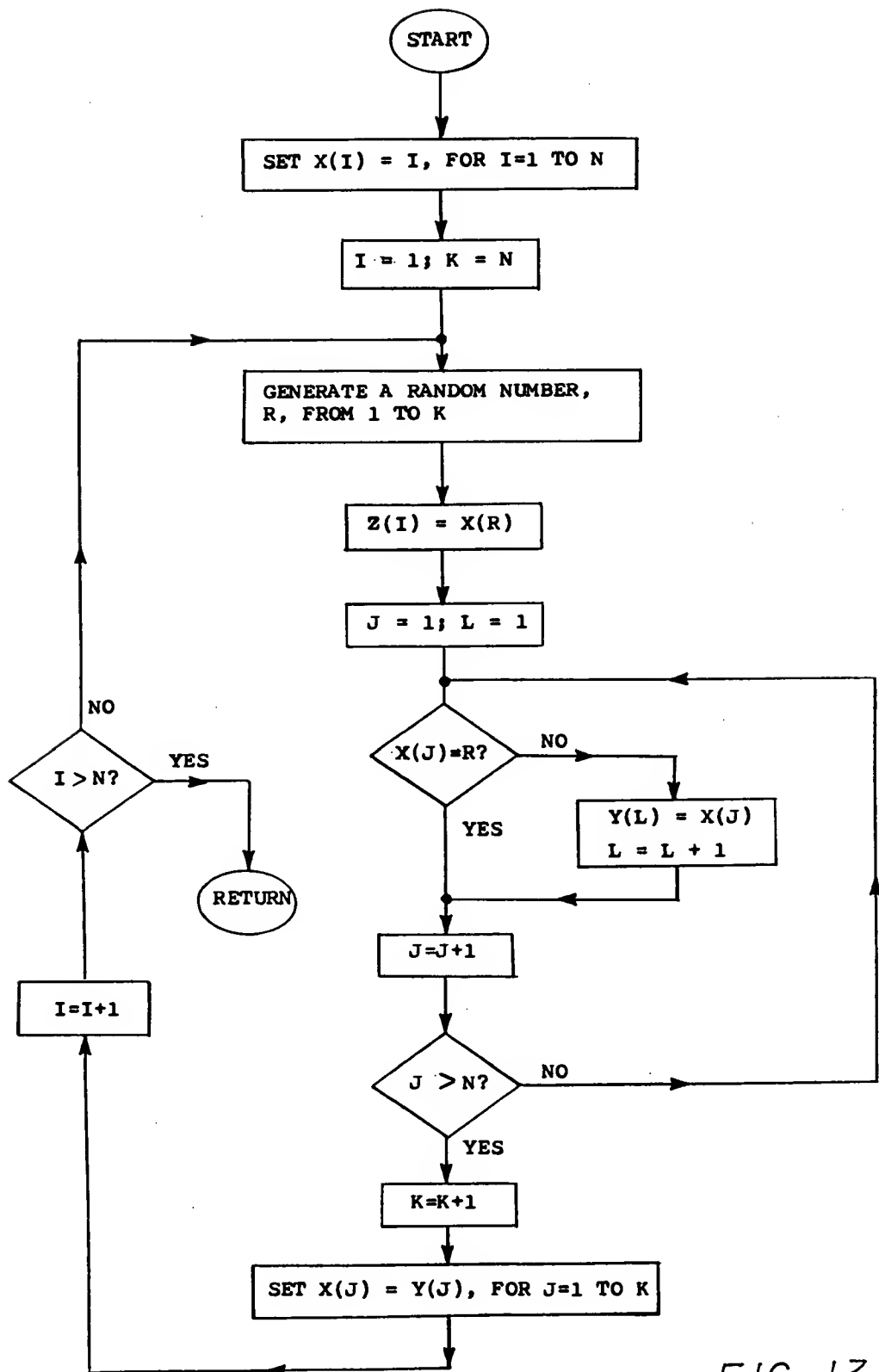


FIG. 13

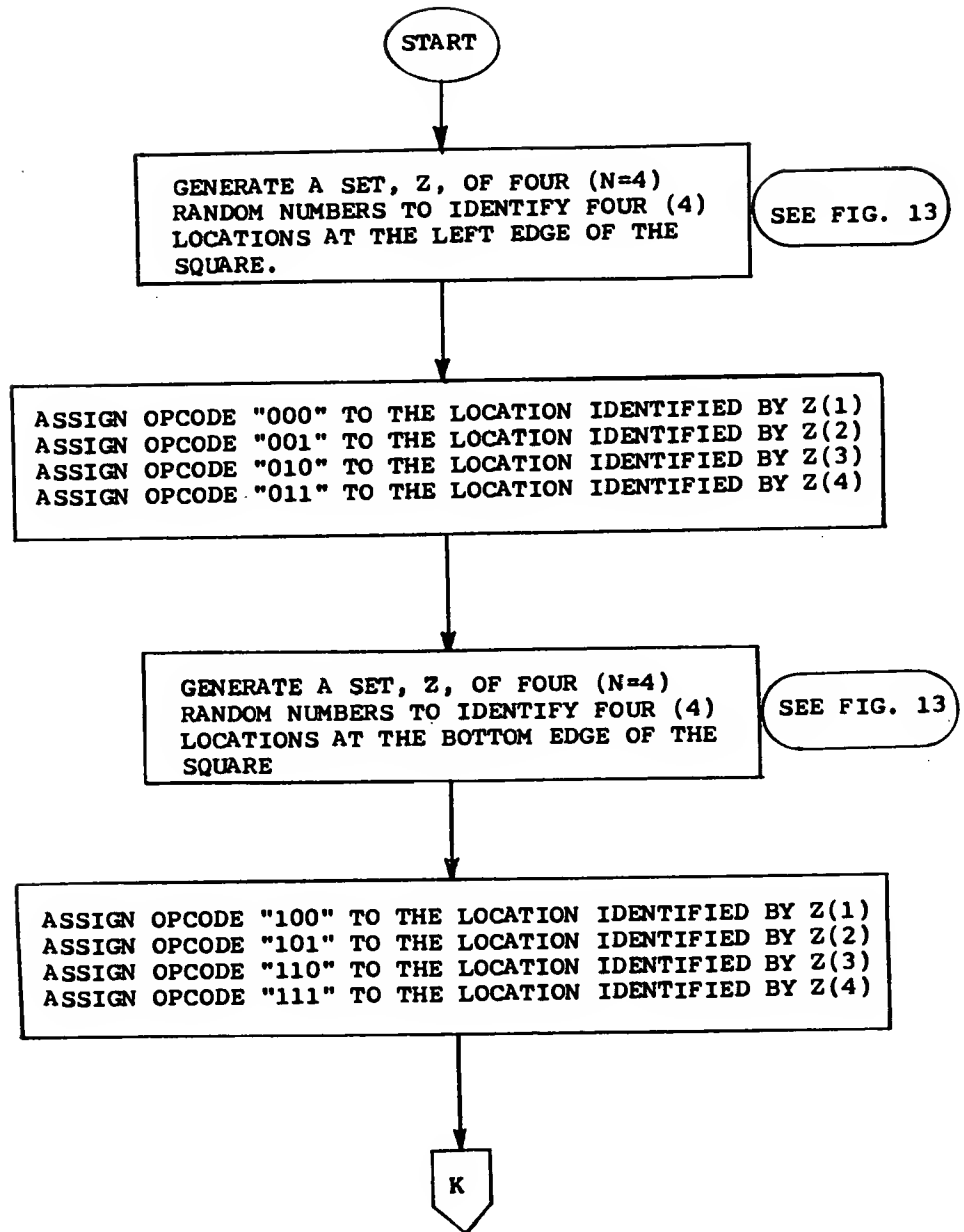


FIG. 14

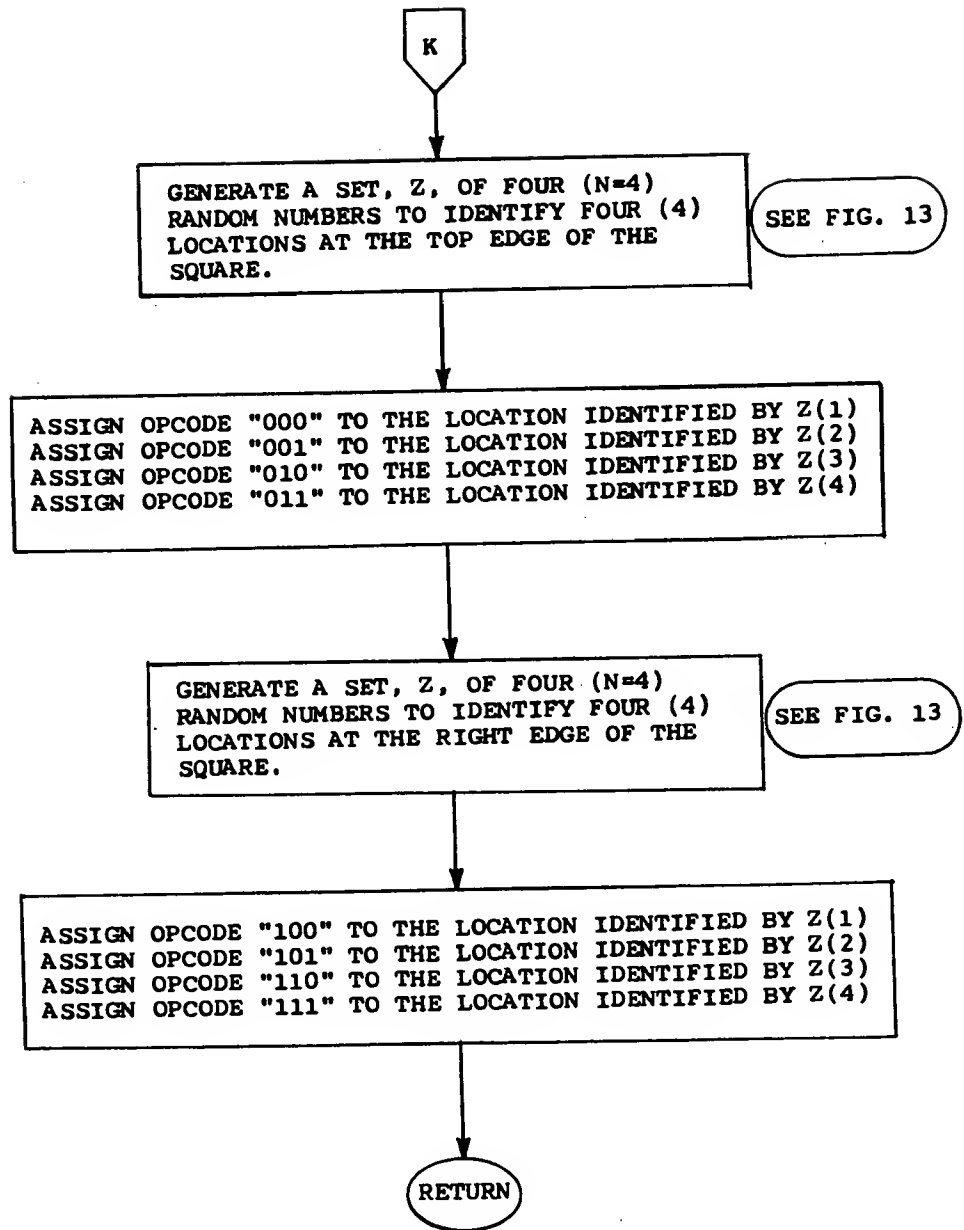


FIG. 15

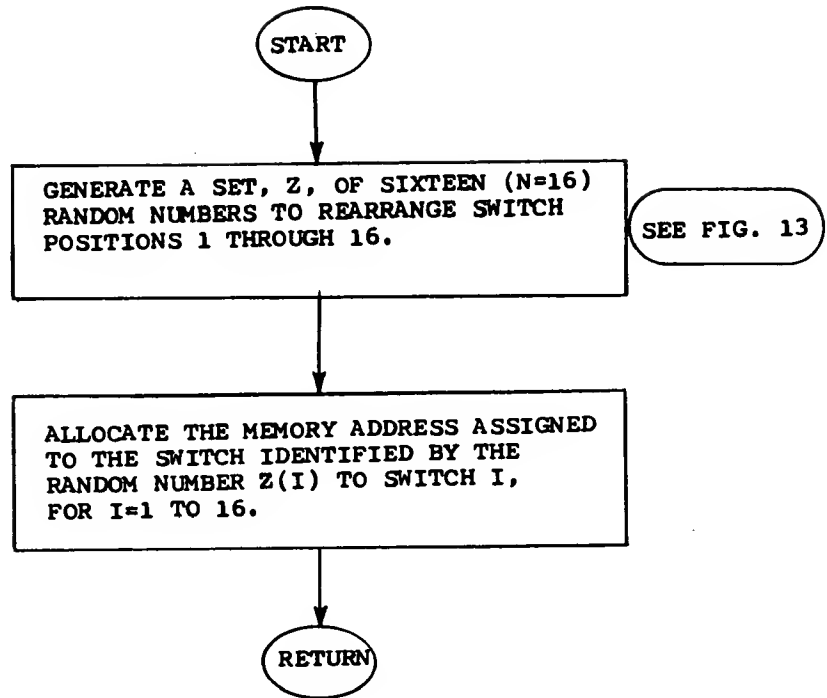


FIG. 16

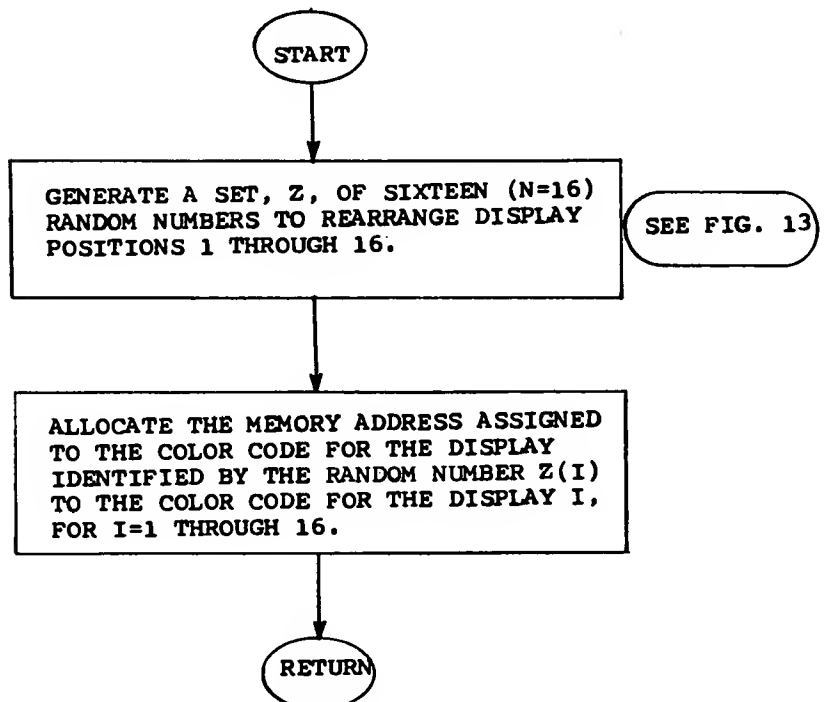


FIG. 17

LEGEND

N : DIMENSION OF LOGIC GAME = NUMBER OF PREDETERMINED COLORS WHICH MAY BE DISPLAYED.
= 4 (FOR THE REFERED EMBODIMENT)

n : NUMBER OF BINARY BITS IN OPCODE AND COLOR CODE.
= $\ln N + 1 = 3$ (FOR THE REFERED EMBODIMENT)

I : ROW NUMBER I, I = 1, ..., N

J : COLUMN NUMBER J, J = 1, ..., N

DIR : ROUTE DIRECTION BETWEEN TWO ADJACENT ROUTING SQUARES;
"R" DENOTES RIGHT
"U" DENOTES UP
"L" DENOTES LEFT
"D" DENOTES DOWN

T : OPCODE TRANSMITTER; T = 1, ..., 2N

R : OPCODE RECEIVER; R = 1, ..., 2N

RC(T) : RECEIVER CONNECTED TO TRANSMITTER "T"

TC(R) : TRANSMITTER CONNECTED TO RECEIVER "R"

W(I,J) : STATUS OF SWITCH LOCATED AT ROW "I" AND COLUMN "J"

TCODE(T) : OPCODE AT TRANSMITTER "T"

RCODE(R) : OPCODE AT RECEIVER "R"

C(R) : COLOR CODE AT RECEIVER "R"

x(i) : THE ith BIT OF OPCODE "X"

y(i) : THE ith BIT OF OPCODE "Y"

cb(i) : THE ith BIT OF COLOR CODE "C"

C1(I,J) : COLOR CODE AT THE RIGHT EDGE OF THE ROUTING SQUARE LOCATED AT ROW "I" AND COLUMN "J"

C2(I,J) : COLOR CODE AT THE TOP EDGE OF THE ROUTING SQUARE LOCATED AT ROW "I" AND COLUMN "J"

C(I,J) : COLOR CODE SELECTED FOR DISPLAY AT THE ROUTING SQUARE LOCATED AT ROW "I" AND COLUMN "J"

⊕ : EXCLUSIVE OR BOOLEAN FUNCTION

⊙ : INCLUSIVE OR BOOLEAN FUNCTION

EXPLANATION OF PROGRAM VARIABLES OF FIGS. 19 - 22

FIG. 18

NOTE:

* SEE FIGURE 18 FOR EXPLANATION OF PROGRAM VARIABLES.

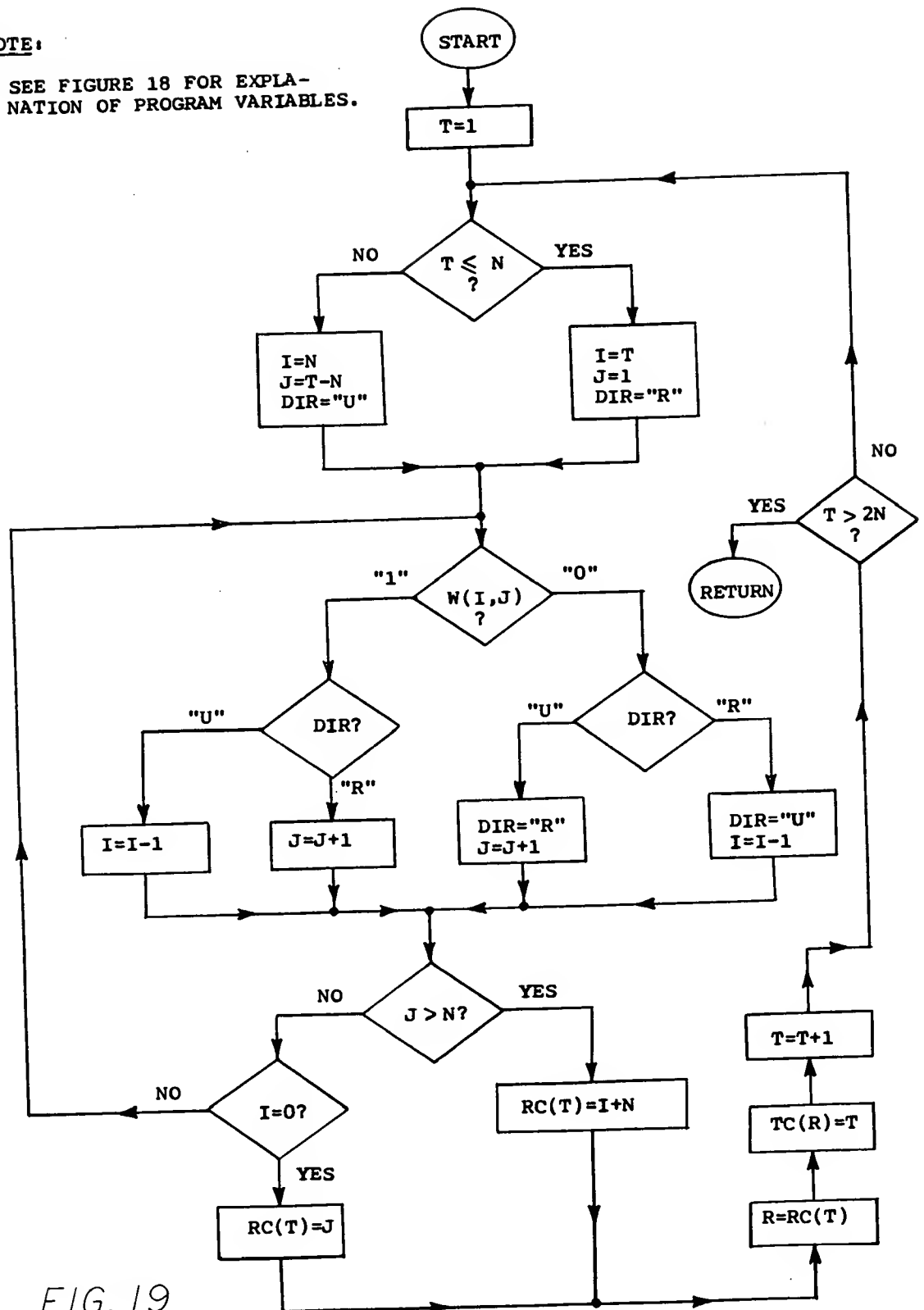
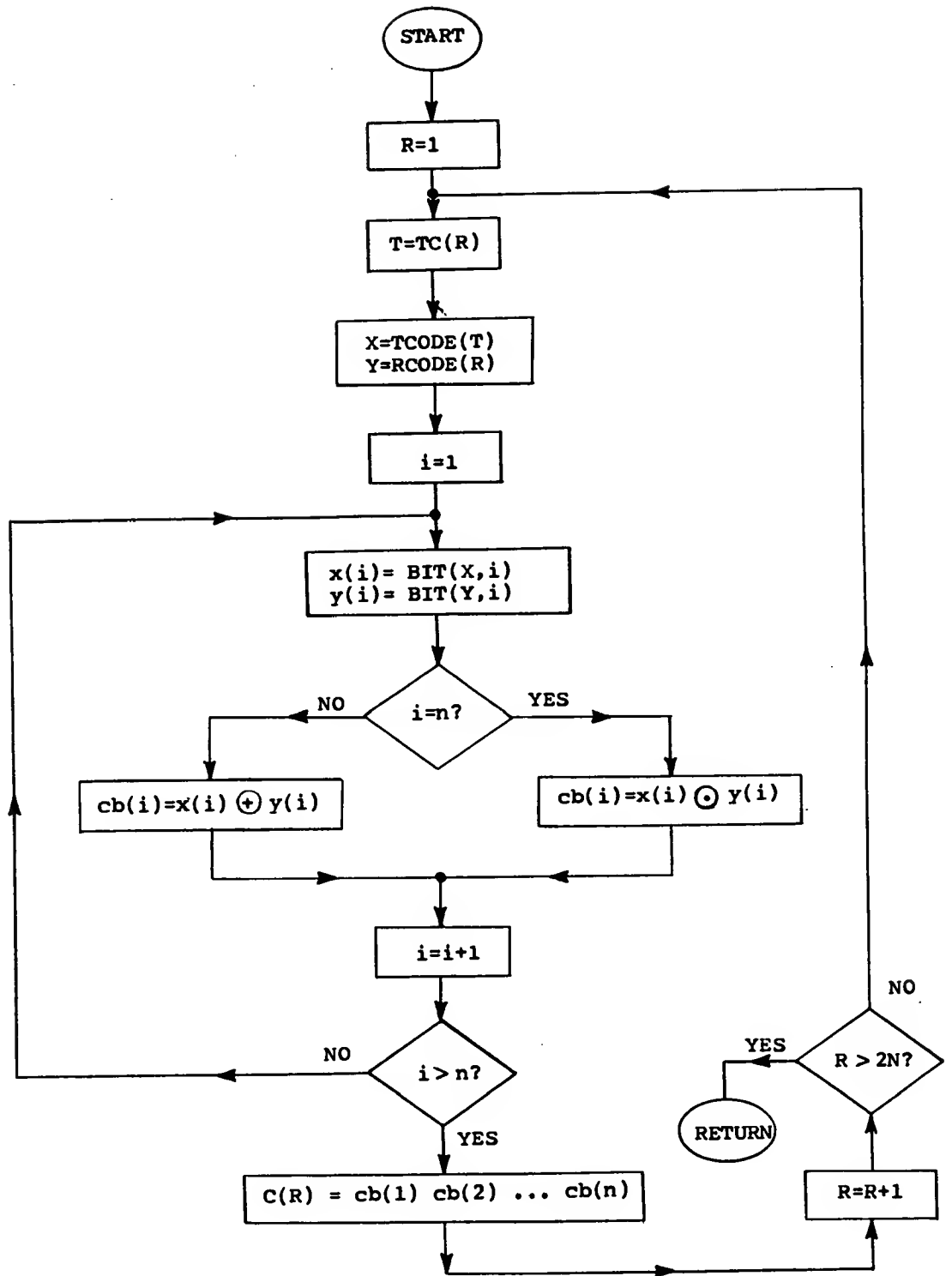


FIG. 19



NOTE:

* SEE FIGURE 18 FOR EXPLANATION
OF PROGRAM VARIABLES.

FIG. 20

NOTE:

* SEE FIGURE 18 FOR
EXPLANATION OF PROGRAM
VARIABLES.

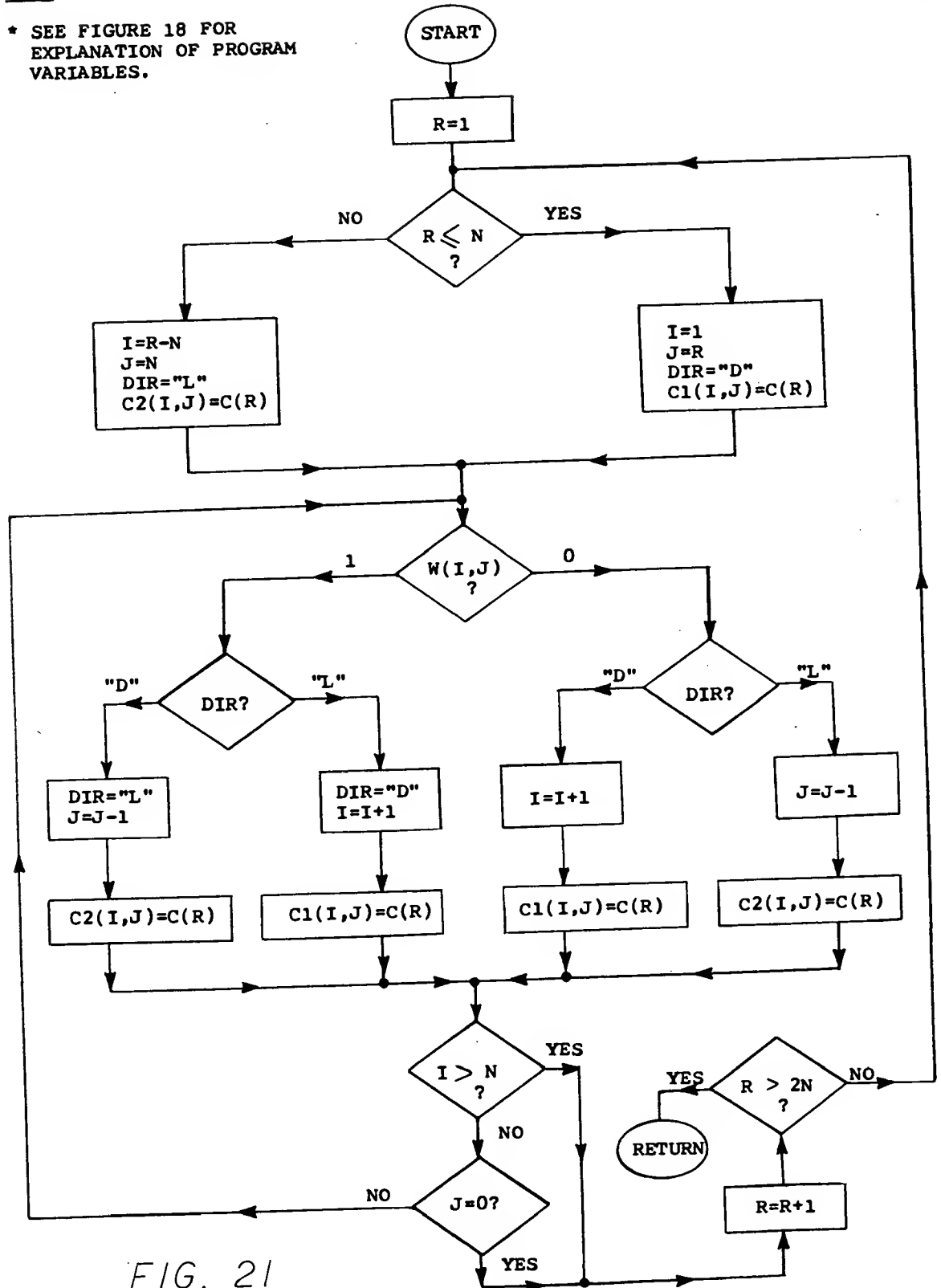
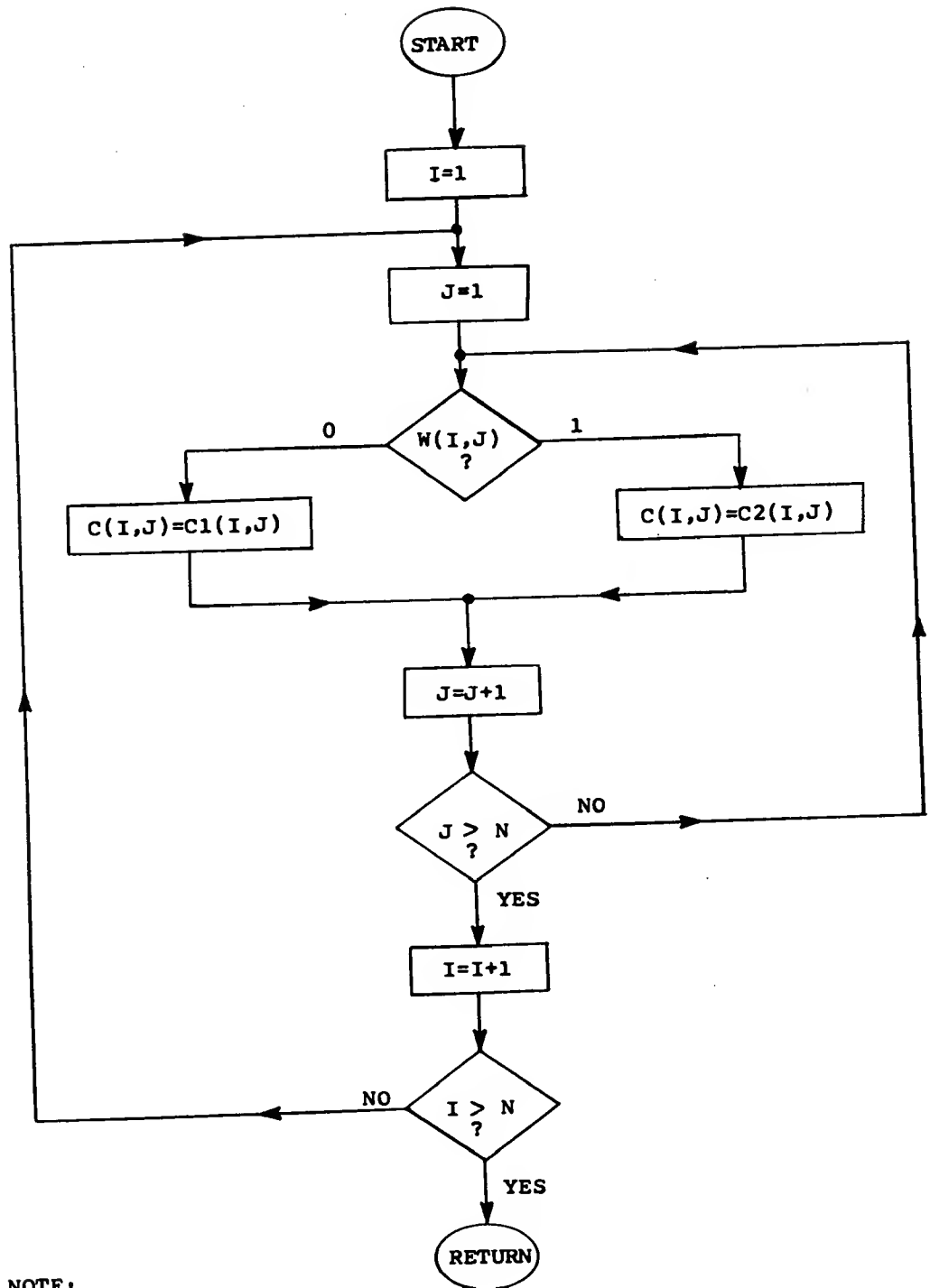


































FIG. 21


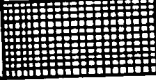




NOTE:

* SEE FIGURE 18 FOR EXPLANATION
OF PROGRAM VARIABLES.

FIG. 22

OPCODE	0 0 0	0 0 1	0 1 0	0 1 1	1 0 0	1 0 1	1 1 0	1 1 1
000								
001								
010								
011								
100								
101								
110								
111								

COLOR CODE	100	101	110	111
COLOR				

COLOR ASSIGNMENTS FOR N = 4

FIG. 23

OP-CODE	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111
	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111
0000																
0001																
0010																
0011																
0100																
0101																
0110																
0111																
1000																
1001																
1010																
1011																
1100																
1101																
1110																
1111																

COLOR CODE	1000	1001	1010	1011	1100	1101	1110	1111
COLOR								

COLOR ASSIGNMENTS FOR N = 8

FIG. 24